

SEARCH REQUEST FORM Scientific and Technical Information Center - EIC2800

Rev. 8/13/2004 This is an experimental format -- Please give suggestions or comments to Jeff Harrison, JEF-4B68, 272-2511.

Date 7/14/05 Serial # 101812947 Priority Application Date _____

Your Name Mihennis Examiner # _____

AU 2899 Phone 202-1838 Room 5A30

In what format would you like your results? Paper is the default. ☒ PAPER ☐ DISK ☐ EMAIL

If submitting more than one search, please prioritize in order of need.

Need before 7/25

The EIC searcher normally will contact you before beginning a prior art search. If you would like to work with a searcher for an interactive search, please notify one of the searchers.

Where have you searched so far on this case? 07-12-05 4:11:11

Circle: ☐ USPT ☐ DWPI ☐ EPO Abi

Other: _____

What relevant art have you found so far? Please attach Information Disclosure Statements. _____

RUSH

What types of references would you like? Please check

Primary Refs ☒ Nonpatent Literature _____

Secondary Refs ☒ Foreign Patents _____

Teaching Refs _____

What is the topic, such as the novelty, motivation, utility, or other specific facets defining the desired focus of this search? Please include the concepts, synonyms, keywords, acronyms, registry numbers, definitions, structures, strategies, and anything else that helps to describe the topic. Please attach a copy of the abstract and pertinent claims.

Claims 1-10

Problem See pages 1-4
Solution " " 4-6

Please look for materials and ranges that are disclosed

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Searcher: HARRISON

Searcher Phone: 22511

Searcher Location: STIC-EIC2800, JEF-4B68

Date Searcher Picked Up: 8-2

Date Completed: 8-3-05

Searcher Prep/Rev Time: 88

Online Time: 68

Type of Search

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Other _____

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FILE 'REGISTRY' ENTERED AT 07:24:05 ON 03 AUG 2005

L1 32506 SEA ABB=ON PLU=ON N/MAC,ELS AND AL/MAC,ELS
L2 7201 SEA ABB=ON PLU=ON N/MAC,ELS AND IN/MAC,ELS
L3 9566 SEA ABB=ON PLU=ON N/MAC,ELS AND GA/MAC,ELS
L4 21991 SEA ABB=ON PLU=ON N/MAC,ELS AND AS/MAC,ELS
L5 798832 SEA ABB=ON PLU=ON N/MAC,ELS AND P/MAC,ELS
L6 14 SEA ABB=ON PLU=ON L1 AND L2 AND L3 AND L4 AND L5

FILE 'CAPLUS' ENTERED AT 07:25:02 ON 03 AUG 2005

L7 27 SEA ABB=ON PLU=ON L6

FILE 'REGISTRY' ENTERED AT 07:25:16 ON 03 AUG 2005

L8 38 SEA ABB=ON PLU=ON L1 AND L2 AND L3 AND L4
L9 32 SEA ABB=ON PLU=ON L1 AND L2 AND L3 AND L5
L10 17 SEA ABB=ON PLU=ON L1 AND L2 AND L4 AND L5
L11 22 SEA ABB=ON PLU=ON L2 AND L3 AND L4 AND L5
L12 391 SEA ABB=ON PLU=ON L1 AND L2 AND L3
L13 378 SEA ABB=ON PLU=ON L2 AND L3 AND L4
L14 54 SEA ABB=ON PLU=ON L5 AND L3 AND L4
L15 94 SEA ABB=ON PLU=ON L1 AND L3 AND L5
L16 39 SEA ABB=ON PLU=ON L1 AND L2 AND L5
L17 31 SEA ABB=ON PLU=ON L1 AND L4 AND L5
L18 47 SEA ABB=ON PLU=ON L1 AND L4 AND L2
L19 33 SEA ABB=ON PLU=ON L5 AND L4 AND L2
L20 96 SEA ABB=ON PLU=ON L5 AND L3 AND L2
L21 54 SEA ABB=ON PLU=ON L5 AND L3 AND L4
L22 16 SEA ABB=ON PLU=ON (L8 OR L9 OR L10 OR L11 OR L12 OR L13 OR
L14 OR L15 OR L16 OR L17 OR L18 OR L19 OR L20 OR L21) AND (BE
OR ZN OR MG OR C)/ELS,MAC
L23 15 SEA ABB=ON PLU=ON L22 NOT O/ELS,MAC
L24 1 SEA ABB=ON PLU=ON L22 NOT L23
D IDE
L25 2 SEA ABB=ON PLU=ON L22 AND NITRIDE
L26 874 SEA ABB=ON PLU=ON (L8 OR L9 OR L10 OR L11 OR L12 OR L13 OR
L14 OR L15 OR L16 OR L17 OR L18 OR L19 OR L20 OR L21) AND
NITRIDE
L27 165 SEA ABB=ON PLU=ON (L8 OR L9 OR L10 OR L11 OR L12 OR L13 OR
L14 OR L15 OR L16 OR L17 OR L18 OR L19 OR L20 OR L21) AND
PHOSPHIDE
L28 417 SEA ABB=ON PLU=ON (L8 OR L9 OR L10 OR L11 OR L12 OR L13 OR
L14 OR L15 OR L16 OR L17 OR L18 OR L19 OR L20 OR L21) AND
ARSENIDE
L29 0 SEA ABB=ON PLU=ON (L8 OR L9 OR L10 OR L11 OR L12 OR L13 OR
L14 OR L15 OR L16 OR L17 OR L18 OR L19 OR L20 OR L21) AND
ALUMINIDE
L30 2 SEA ABB=ON PLU=ON L23 AND L25
L31 2 SEA ABB=ON PLU=ON L23 AND L26
L32 0 SEA ABB=ON PLU=ON L23 AND L27
L33 0 SEA ABB=ON PLU=ON L23 AND L28
L34 60 SEA ABB=ON PLU=ON L27 AND L28
L35 60 SEA ABB=ON PLU=ON L26 AND L27 AND L28

L36 1977 SEA ABB=ON PLU=ON (L1 OR L2 OR L3 OR L4 OR L5) AND (BE OR ZN
OR MG OR C)/ELS,MAC AND NITRIDE
L37 6 SEA ABB=ON PLU=ON (L1 OR L2 OR L3 OR L4 OR L5) AND (BE OR ZN
OR MG OR C)/ELS,MAC AND ARSENIDE
L38 26 SEA ABB=ON PLU=ON (L1 OR L2 OR L3 OR L4 OR L5) AND (BE OR ZN
OR MG OR C)/ELS,MAC AND PHOSPHIDE
L39 30 SEA ABB=ON PLU=ON L36 AND L1 AND (L2 OR L3 OR L4 OR L5)

FILE 'CAPLUS' ENTERED AT 07:35:23 ON 03 AUG 2005

L40 1 SEA ABB=ON PLU=ON L25

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L41 101 SEA ABB=ON PLU=ON (L34 OR L35)
L42 32 SEA ABB=ON PLU=ON (L37 OR L38)
L43 13 SEA ABB=ON PLU=ON L39

FILE 'REGISTRY' ENTERED AT 07:36:54 ON 03 AUG 2005

L44 9411 SEA ABB=ON PLU=ON (L1 OR L2 OR L3 OR L4 OR L5) AND NITRIDE

FILE 'CAPLUS' ENTERED AT 07:37:37 ON 03 AUG 2005

L45 1 SEA ABB=ON PLU=ON JP2005085852/PN
L46 SEL PLU=ON L45 1- IC FTERM : 26 TERMS
L47 4282 SEA ABB=ON PLU=ON L46
L48 8887 SEA ABB=ON PLU=ON L44 AND (L47 OR H01L?/IC OR 257?/NCL)
L49 3581 SEA ABB=ON PLU=ON L44 AND BUFFER#####
L50 1414 SEA ABB=ON PLU=ON L44 AND PROTECT#####
L51 576 SEA ABB=ON PLU=ON L44 AND (INTER OR INTERMEDIATE) (2A) LAYER
L52 1152 SEA ABB=ON PLU=ON L44 AND (INTERPOS##### OR INTERLAYER#####)

L53 4537 SEA ABB=ON PLU=ON L44 AND THICKNESS#####
L54 163 SEA ABB=ON PLU=ON L44 AND ULTRATHIN
L55 525 SEA ABB=ON PLU=ON L44 AND NM(2A) (THIN OR THIVK##### OR
LAYER OR FILM OR COAT####)
L56 14321 SEA ABB=ON PLU=ON L44 AND NITRIDE/TI
L57 1325 SEA ABB=ON PLU=ON L44 AND COMPOUND SEMICONDUCT#####
L58 3026 SEA ABB=ON PLU=ON L44 AND 1(2A) (X OR Y OR C OR D OR U OR V)
L59 706 SEA ABB=ON PLU=ON L44 AND X(2A) Y
L60 43 SEA ABB=ON PLU=ON L44 AND U(2A) V
L61 1520 SEA ABB=ON PLU=ON L44 AND C(2A) D
L62 9071 SEA ABB=ON PLU=ON L44 AND (LAYERS/AB OR SECOND(2W) LAYER)
L63 1193 SEA ABB=ON PLU=ON L44 AND ((2ND OR 2 OR TWO OR DOUBLE OR BI
OR DI) (2W) LAYER)
L64 235 SEA ABB=ON PLU=ON L44 AND BILAYER#####
L65 1888 SEA ABB=ON PLU=ON L44 AND MULTILAYER#####
L66 319 SEA ABB=ON PLU=ON L44 AND (MULTI OR MULTIPLE) (2W) LAYER#####
L67 2885 SEA ABB=ON PLU=ON L44 AND (STACK##### OR SANDWICH##### OR
LAMINA#####)
L68 3692 SEA ABB=ON PLU=ON L44 AND RATIO
L69 1664 SEA ABB=ON PLU=ON L44 AND ENERGIES/AB
L70 252 SEA ABB=ON PLU=ON L44 AND (BANDGAPS OR BAND GAPS)
L71 420 SEA ABB=ON PLU=ON L44 AND (WIDER OR HIGHER) (3A) (ENERGY OR
GAP OR BAND OR BANDGAP)
L72 601 SEA ABB=ON PLU=ON L44 AND ELECTRON GAS
L73 1097 SEA ABB=ON PLU=ON L44 AND DENSITIES
L74 713 SEA ABB=ON PLU=ON L44 AND OPERATING
L75 7728 SEA ABB=ON PLU=ON L44 AND (CURRENT OR VOLTAGE OR AMP OR
AMPERAGE OR VOLT)
L76 2140 SEA ABB=ON PLU=ON (L58 OR L59 OR L60 OR L61) AND (L48 OR L49
OR L50 OR L51 OR L52 OR L53 OR L54 OR L55 OR L56 OR L57)
L77 2551 SEA ABB=ON PLU=ON (L58 OR L59 OR L60 OR L61) AND (L62 OR L63
OR L64 OR L65 OR L66 OR L67 OR L68 OR L69 OR L70 OR L71 OR L72
OR L73 OR L74 OR L75)
L78 10986 SEA ABB=ON PLU=ON (L48 OR L49 OR L50 OR L51 OR L52 OR L53 OR
L54 OR L55 OR L56 OR L57) AND (L62 OR L63 OR L64 OR L65 OR L66
OR L67 OR L68 OR L69 OR L70 OR L71 OR L72 OR L73 OR L74 OR
L75)
L79 1144 SEA ABB=ON PLU=ON L77 AND L78
L80 2305 SEA ABB=ON PLU=ON L49 AND (L76 OR L77 OR L78)
L81 1523 SEA ABB=ON PLU=ON (L62 OR L63 OR L64 OR L65 OR L66) AND L80
L82 160 SEA ABB=ON PLU=ON L79 AND L81
L83 160 SEA ABB=ON PLU=ON (L58 OR L59 OR L60 OR L61) AND (L62 OR L63
OR L64 OR L65 OR L66) AND L49
L84 160 SEA ABB=ON PLU=ON L82 AND L83
L85 6 SEA ABB=ON PLU=ON L84 AND CHANNEL
L86 8 SEA ABB=ON PLU=ON L84 AND DONOR
L87 139 SEA ABB=ON PLU=ON L84 AND SUBSTRATE

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L88	100	SEA ABB=ON	PLU=ON	(L49 OR L50 OR L51 OR L52) AND CHANNEL
L89	106	SEA ABB=ON	PLU=ON	(L49 OR L50 OR L51 OR L52) AND DONOR
L90	4201	SEA ABB=ON	PLU=ON	(L49 OR L50 OR L51 OR L52) AND SUBSTRATE
L91	7	SEA ABB=ON	PLU=ON	(L49 OR L50 OR L51 OR L52) AND SUBSTRATE(8A))DONOR
L92	21	SEA ABB=ON	PLU=ON	(L49 OR L50 OR L51 OR L52) AND SUBSTRATE(8A))CHANNEL
L93	4	SEA ABB=ON	PLU=ON	(L49 OR L50 OR L51 OR L52) AND DONOR(8A)CHA NNEL
L94	17	SEA ABB=ON	PLU=ON	(L49 OR L50 OR L51 OR L52) AND DONOR(2A)LAY ER
L95	44	SEA ABB=ON	PLU=ON	(L49 OR L50 OR L51 OR L52) AND CHANNEL(2A)L AYER
L96	0	SEA ABB=ON	PLU=ON	L87 AND L88 AND L89
L97	6	SEA ABB=ON	PLU=ON	L90 AND L88 AND L89
L98	21	SEA ABB=ON	PLU=ON	L59 AND L60
L99	1	SEA ABB=ON	PLU=ON	L98 AND L61
L100	1337	SEA ABB=ON	PLU=ON	(L51 OR L60 OR L54 OR L55 OR L59 OR L64 OR L66 OR (L70 OR L71 OR L72) OR L74 OR L84 OR (L87 OR L88 OR L89)) AND LAYERS/AB
L101	634	SEA ABB=ON	PLU=ON	(L51 OR L60 OR L54 OR L55 OR L59 OR L64 OR L66 OR (L70 OR L71 OR L72) OR L74 OR L84 OR (L87 OR L88 OR L89)) AND BUFFER#####(4A)(?LAYER? OR FILM OR ?COAT?)
L102	109	SEA ABB=ON	PLU=ON	(L100 OR L101) AND CHANNEL
L103	120	SEA ABB=ON	PLU=ON	(L100 OR L101) AND DONOR
L104	981	SEA ABB=ON	PLU=ON	(L100 OR L101) AND SUBSTRATE
L105	54	SEA ABB=ON	PLU=ON	(L100 OR L101) AND ENERGIES
L106	48	SEA ABB=ON	PLU=ON	(L100 OR L101) AND DENSITIES
L107	40	SEA ABB=ON	PLU=ON	(L100 OR L101) AND THICKNESSES
L108	14	SEA ABB=ON	PLU=ON	L102 AND L103
L109	60	SEA ABB=ON	PLU=ON	L102 AND L104
L110	3	SEA ABB=ON	PLU=ON	L102 AND L105
L111	7	SEA ABB=ON	PLU=ON	L102 AND L106
L112	0	SEA ABB=ON	PLU=ON	L102 AND L107
L113	3	SEA ABB=ON	PLU=ON	L103 AND L107
L114	10	SEA ABB=ON	PLU=ON	L103 AND L106
L115	11	SEA ABB=ON	PLU=ON	L103 AND L105
L116	72	SEA ABB=ON	PLU=ON	L103 AND L104
L117	287	SEA ABB=ON	PLU=ON	(L85 OR L86) OR (L91 OR L92 OR L93 OR L94 OR L95 OR L96 OR L97 OR L98 OR L99) OR (L105 OR L106 OR L107 OR L108 OR L109 OR L110 OR L111 OR L112 OR L113 OR L114 OR L115 OR L116)
L118	168	SEA ABB=ON	PLU=ON	L117 AND BUFFER#####
L119	206	SEA ABB=ON	PLU=ON	L117 AND LAYERS
L120	96	SEA ABB=ON	PLU=ON	L118 AND L119
L121	276	SEA ABB=ON	PLU=ON	(L118 OR L119 OR L120) AND NITRIDE
L122	96	SEA ABB=ON	PLU=ON	L120 AND NITRIDE
L123	8	SEA ABB=ON	PLU=ON	L120 AND COMPOUND SEMICONDUCT#####
L124	46	SEA ABB=ON	PLU=ON	L120 AND STRUCTURE
L125	39	SEA ABB=ON	PLU=ON	L120 AND DEVICE
L126	46	SEA ABB=ON	PLU=ON	(L121 OR L122) AND L124
L127	24	SEA ABB=ON	PLU=ON	L125 AND L126
L128	200	SEA ABB=ON	PLU=ON	L7 OR L40 OR L42 OR L43 OR (L85 OR L86) OR (L91 OR L92 OR L93 OR L94 OR L95 OR L96 OR L97 OR L98 OR L99) OR L108 OR (L110 OR L111 OR L112 OR L113 OR L114 OR L115) OR L123 OR L127
L129	56	SEA ABB=ON	PLU=ON	L128 AND NITRIDE(3A)(BASED OR COMPOUND OR SEMICONDUCT#####)
L130	100	SEA ABB=ON	PLU=ON	L128 AND BUFFER#####
L131	14	SEA ABB=ON	PLU=ON	L128 AND DONOR AND CHANNEL
L132	29	SEA ABB=ON	PLU=ON	L129 AND L130
L133	125	SEA ABB=ON	PLU=ON	L7 OR L40 OR L43 OR (L85 OR L86) OR L91

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OR L93 OR L97 OR L99 OR L108 OR (L110 OR L111 OR L112 OR L113
OR L114 OR L115) OR L123 OR L127 OR (L131 OR L132)

L134 27 SEA ABB=ON PLU=ON L133 AND NITRIDE/TI
L135 12 SEA ABB=ON PLU=ON L133 AND BUFFER####/TI
L136 79 SEA ABB=ON PLU=ON L7 OR L40 OR L43 OR L131 OR L134 OR L135
L137 7 SEA ABB=ON PLU=ON L133 AND THICKNESSES
L138 17 SEA ABB=ON PLU=ON L133 AND ENERGIES
L139 18 SEA ABB=ON PLU=ON L133 AND DENSITIES
L140 91 SEA ABB=ON PLU=ON L6 OR L40 OR L43 OR L131 OR L135 OR (L137
OR L138 OR L139)

L141 70 SEA ABB=ON PLU=ON L136 AND L140
L142 76 SEA ABB=ON PLU=ON (L133 OR L134 OR L135 OR L136 OR L137 OR
L138 OR L139 OR L140 OR L141) AND BUFFER####(2A) (LAYER OR
FILM)

L143 26 SEA ABB=ON PLU=ON (L133 OR L134 OR L135 OR L136 OR L137 OR
L138 OR L139 OR L140 OR L141) AND BUFFER####(2A) (LAYERS OR
FILMS)
D BIB AB HITSTR 1-26

L144 27 SEA ABB=ON PLU=ON L7 NOT L143
D BIB AB HITSTR 1-27

L145 44 SEA ABB=ON PLU=ON (L40 OR (L42 OR L43)) NOT (L144 OR L143)
L146 3 SEA ABB=ON PLU=ON L145 AND (LAYERS/AB OR ENERGIES OR
THICKNESSES OR DENSITIES OR BUFFER#####)

03aug05 08:36:39 User259284 Session D3243.2

Dialog File 2:INSPEC 1969-2005/Jul W4
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Set	Items	Description
S1	2	CI=(N SS(S)GA SS(S)AL SS(S)IN SS(S)P SS(S)AS SS)
S2	10443	CI=(MG DOP OR C DOP OR ZN DOP OR C DOP)
S3	5	CI=(N SS(S)GA SS(S)AL SS(S)IN SS(S)P SS)
S4	22	CI=(N SS(S)GA SS(S)AL SS(S)IN SS(S)AS SS)
S5	3	CI=(N SS(S)GA SS(S)AL SS(S)P SS(S)AS SS)
S6	62	CI=(N SS(S)GA SS(S)IN SS(S)P SS(S)AS SS)
S7	2	CI=(N SS(S)AL SS(S)IN SS(S)P SS(S)AS SS)
S8	3	S2 AND S3:S7
S9	10443	CI=(MG DOP OR C DOP OR ZN DOP)
S10	90	CI=N AND NITRIDE AND COMPOUND(2W)SEMICONDUCT??????????
S11	2	S9 AND S10
S12	1404	CI=BE DOP
S13	0	S10 AND S12
S14	64	((NITRIDE OR NITRIDES) OR COMPOUND(2W)SEMICONDUCT????????)
AND S12		
S15	48	S14 AND (NITRIDE OR NITRIDES OR CI=N SS)
S16	2	S15 AND BUFFER??????
S17	1771	S9 AND (NITRIDE OR NITRIDES OR CI=N SS)
S18	1766	S17 NOT (S8 OR S11 OR S16 OR S1)
S19	47	S18 AND BUFFER??????
S20	280	S18 AND DONOR?????
S21	42	S18 AND CHANNEL????
S22	8	19AND20
S23	5	19AND21
S24	10	20AND21
S25	21	S22:S24

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